

CHANGING LAW TO ADDRESS CHANGING MARKETS: A CONSEQUENCE-BASED INQUIRY

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I

INTRODUCTION AND NORMATIVE FRAMEWORK

This article examines the causal relationship between changes in markets for financial securities (financial markets) and resulting changes in law. It thus engages the first part of a much broader legal inquiry: “The controversy between those who believe that law should essentially follow, not lead, . . . and those who believe that law should be a determined agent in the creation of new norms”¹ This article does not purport to resolve that controversy; it merely examines when the law should “follow” changes in financial markets.

To that end, subpart A next describes why it is important to have a normative framework for determining when financial market changes—specifically, material changes in the structure of, or the behavior of participants in, financial markets²—should drive legal changes. Subpart B hypothesizes such a normative framework. Subpart C then explains the methodology for testing that hypothesis. Thereafter, parts II and III of the article apply that methodology.

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1. WOLFGANG FRIEDMAN, LAW IN A CHANGING SOCIETY 3 (1959) (describing that broader inquiry as “one of the recurrent themes of the history of legal thought”).

2. The transformation of a securities market from one limited to institutional trading to one allowing public trading is an example of a change in the structure of a financial market. *Cf. infra* notes 44–49 (discussing a consequence-based inquiry of such a market change). On the other hand, the bond-market change discussed *infra* note 51 and accompanying text is an example of a change in the behavior of market participants.

A. The Importance Of a Normative Framework

Remarkably, no normative framework currently exists for determining when financial market changes should drive legal changes.³ Such a framework, however,⁴ would increase transparency, and hence legitimacy, of legal changes,⁵ and possibly also improve law's efficiency.⁶ It would also help counter the tendency of politics⁷ to distort that causal relationship, which often results in over-reactive, under-reactive, or otherwise inefficient legal responses to market changes.⁸ Illustrations of this potential for distortions include enactment of the Volcker Rule in response to the 2008–2009 financial crisis (the “financial crisis”) and also, in a broad sense, by the cycle of market deregulation during economic booms and subsequent re-regulation following economic busts.

The Volcker Rule had its genesis in a proposal by former Federal Reserve Board chairman Paul Volcker to limit banks from trading in securities for their own account, which had become widespread after the repeal of the Glass-Steagall Act.⁹ Enacted into law as one of the more politically motivated provisions of the Dodd-Frank Act,¹⁰ the Volcker Rule bars banking entities and some systemically

3. See *infra* note 110 and accompanying text (discussing the ad hoc relationship between those changes). Cf. OXERA CONSULTING LTD., A FRAMEWORK FOR ASSESSING THE BENEFITS OF FINANCIAL REGULATION 1–2 (2006) (observing the lack of such a framework).

4. A normative framework might also serve as a tool to assess financial regulation *ex post*, examining whether existing regulations are justified.

5. Various commentators have expressed the need for greater legitimacy. See, e.g., Marc Quintyn & Michael W. Taylor, *Should Financial Sector Regulators Be Independent?*, 32 ECON. ISSUES (2004), <http://www.imf.org/external/pubs/ft/issues/issues32/> [<https://perma.cc/66XH-6TWH>]; Robert F. Weber, *New Governance, Financial Regulation, and Challenges to Legitimacy: The Example of Internal Models Approach to Capital Adequacy Regulation*, 63 ADMIN. L. REV. 783, 850–55 (2010) (discussing issues with legitimacy in the context of capital adequacy regulation). Cf. *infra* note 143 and accompanying text (explaining why this article's proposed normative framework would provide the transparency needed to counter lobbying pressure).

6. Cf. Yair Listokin, *Law and Microeconomics: The Law and Economics of Recessions* (Yale Law Sch., Pub. L. Research Paper No. 576, 2016), https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=2828352 (arguing that a given law may be efficient during one phase of a business cycle but inefficient during another phase, such as a recession; and thus the law should change as a function of the business cycle).

7. This tendency is especially pronounced in the context of legislative and regulatory lawmaking, on which this article primarily—though not exclusively—focuses.

8. Cf. HENRY N. BUTLER & LARRY E. RIBSTEIN, *THE SARBANES-OXLEY DEBACLE* (2006) (describing the Sarbanes-Oxley Act of 2002, enacted in response to the Enron scandal, as “a colossal failure, poorly conceived and hastily enacted during a regulatory panic”); Larry E. Ribstein, *Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002*, 28 J. CORP. L. 1, 19 (2003) (stating that the Sarbanes-Oxley Act was “passed in a hectic environment in which politicians played on public misperceptions of risk and eschewed careful balancing of costs and benefits”); Steven L. Schwarcz, *Regulating Financial Change: A Functional Approach*, 100 MINN. L. REV. 1441, 1447 (2016) (arguing, among other things, that policymakers and regulators are politically influenced and tend to focus on past risks, to ignore emerging problems, and also to respond to the media which can create distortions by emphasizing what journalists find accessible).

9. Charles K. Whitehead, *The Volcker Rule and Evolving Financial Markets*, 1 HARV. BUS. L. REV. 39, 42–43 (2011). This trading change represented a material change in the behavior of participants in financial markets. See *supra* note 2 and accompanying text.

10. *Id.* at 41–42 (arguing that the ultimate intention of the Volcker Rule “was less to cure a particular

important non-bank financial firms from “‘engag[ing] in proprietary trading’ or ‘acquir[ing] or retain[ing] any equity, partnership, or other ownership interest in sponsor[ing] a hedge fund or private equity fund.’”¹¹ Politicians and other proponents of the Rule “argue[] that [this] proprietary trading had distracted banks from their fiduciary obligations to clients, as well as from their core function of ‘safe[ly] and sound[ly providing] long-term credit to families and business enterprises.’”¹² This distraction, they contend, led to excess speculation by the banks and became a primary factor in causing the financial crisis.¹³ As even Volcker himself concedes, however, there is little evidence that proprietary trading by banks was a cause of the financial crisis.¹⁴ Furthermore, the merits of the Volcker Rule remain controversial and untested.¹⁵

The market deregulation and re-regulation cycle more broadly illustrates political under-reaction and over-reaction. During economic prosperity, lobbyists for the financial industry, as well as a “delight[ed] constituen[cy],” push politicians for deregulation,¹⁶ which can leave markets under-protected. Once the bubble of prosperity inevitably bursts, “investor confidence in the integrity of the market and its institutions” dissipates,¹⁷ leading to “a public demand for new [over-protective] laws and regulations to punish [alleged] malfeasance in the market.”¹⁸ This cycle can lead to “grossly inefficient”¹⁹ under-protective and over-protective laws.

A normative framework for determining when financial market changes should drive legal changes would help to counter these inefficiencies.

cause of the financial crisis and more to champion the populist view that commercial banking should be separated from investment banking”).

11. *Id.* at 40.

12. *Id.* at 43.

13. *Id.* at 41.

14. Chairman Volcker and U.S. Treasury Secretary Timothy Geithner both believe that proprietary trading by banks was not a major factor leading to the collapse of the financial system. *See id.* (quoting Chairman Volcker’s statements that “‘proprietary trading in commercial banks was not . . . central to the crisis” and Secretary Geithner’s testimony that “most of the losses that were material . . . did not come from [proprietary trading] activities”).

15. Schwarcz, *supra* note 8, at 1486. The Volcker Rule is not necessarily wrong, it merely illustrates the potential for political distortion in lawmaking.

16. Erik F. Gerding, *The Next Epidemic: Bubbles and the Growth and Decay of Securities Regulation*, 38 CONN. L. REV. 393, 418, 421–22 (2006). Behavioral biases, especially the availability bias, also influence lawmakers. *Id.* at 422. “The availability bias means that, as time passes since the last financial crisis, regulators and policymakers discount the potential for new crises and the need for regulations to avert those crises. . . . Regulators and policymakers may also excessively and subconsciously discount the expected future costs of a burst bubble. Moreover, the election cycle means that the costs may be realized on another politician’s watch.” *Id.*

17. *Id.*

18. *Id.* at 423.

19. *Id.*

B. Hypothesizing a Normative Framework

In the financial context, the principal normative justification for lawmaking is to correct market failures.²⁰ Therefore, a change in financial markets should drive a change in law to the extent needed to correct market failures resulting from the market change. Even then, however, the law does not, and probably should not, attempt to correct all market failures.²¹

The extent to which financial market changes should drive legal changes should depend on consequences: the consequences of market failures resulting from the market changes and the consequences of changing the law to attempt to correct those failures. The first steps of this consequence-based inquiry would be to identify financial market changes, to determine whether any market failures result from those market changes, and to assess the consequences of those failures. If those consequences are harmful, the next steps would be to consider legal changes that could correct the market failures, to examine the consequences of making those legal changes, and finally to balance consequences of the various corrective options to reach a course of action.²²

Although consequence-based inquiry is more often used than articulated, Judge Posner believes that it underpins legal reasoning.²³ Indeed, he argues that legal reasoning may not even exist as an independent concept, and that consequences may be all that really matters.²⁴ Professor Luhmann echoes this sentiment, contending that a focus on consequences is the most frequent and perhaps only basis for modern legislative and judicial decisions.²⁵ Professor Cserne has more formally described consequence-based reasoning:

If in deciding case C, the decision-maker finds that there is a relevant rule R which has more than one plausible interpretation (X, Y, Z, . . .) the decision-maker is said to use a consequence-based argument if she justifies her decision for rule interpretation X

20. See, e.g., DAVID GOWLAND, *THE REGULATION OF FINANCIAL MARKETS IN THE 1900S* 21 (1990); PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* 756 (15th ed. 1995) (defining market failure as “[a]n imperfection in a price system that prevents an efficient allocation of resources). This article includes in that definition market failures that could have systemic consequences.

21. There are various reasons why the law should not attempt to correct all market failures. For example, “market forces may evolve such that outside intervention [to correct the failure] becomes unnecessary.” Reeve T. Bull, *Market Corrective Rulemaking: Drawing on EU Insights to Rationalize U.S. Regulation*, 67 ADMIN. L. REV. 629, 639 (2015). Attempts to change the law to correct market failures might also cause unforeseen negative consequences. See, e.g., Holly K. Towle, *The Politics of Licensing Law*, 36 HOUS. L. REV. 121, 174 n.134 (1999) (“Government responses to market failures, although having the potential to improve market outcomes, may have unforeseen, and sometimes adverse, consequences. Economic theory and empirical evidence suggest that government regulation has the potential to foster or hinder technological progress and the development of new products by influencing private sector incentives to invest in research and development activities and private sector choices among alternative technologies.”).

22. This balance is not suggested as a “rigid formula to govern outcomes,” but merely as a guide for helping decisionmaking. Cf. Robert W. Hahn & Cass R. Sunstein, *A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost-Benefit Analysis*, 150 U. PA. L. REV. 1489, 1498 (2002) (arguing that cost-benefit analysis should not constitute such a rigid formula).

23. See generally RICHARD A. POSNER, *LAW, PRAGMATISM, AND DEMOCRACY* (2003).

24. *Id.*

25. NIKLAS LUHMANN, *RISK: A SOCIOLOGICAL THEORY* 59 (1993).

(instead of rule-interpretation Y or Z) with the argument that rule-interpretation X will bring about consequences which are normatively superior to the consequences brought about by the alternative rule-interpretations.²⁶

This description states the obvious but also raises a critical yet subtle question: In comparing consequences, how should one determine which consequences are normatively superior to other consequences? That depends on the choice of normative standards.

As Professor Cserne observes, “[r]eal-world legal systems typically constrain [the] choice of normative standards.”²⁷ Given its focus on financial markets, this article constrains its choice of normative standards to economics. That allows consequences to be measured by economic costs and benefits, making it relatively feasible to determine whether certain consequences are normatively superior to other consequences. But that also calls into question how consequence-based inquiry differs from cost-benefit analysis,²⁸ which is widely used to assess the desirability of proposed regulation.²⁹ The answer is that this article’s concept of consequence-based inquiry (“CBI”) includes but goes beyond the traditional and most common use of cost-benefit analysis.

Although cost-benefit analysis “has a variety of meanings and uses,”³⁰ its traditional and common use is to assess the desirability of proposed regulation,³¹

26. Péter Cserne, *Consequence-Based Arguments in Legal Reasoning: A Jurisprudential Preface to Law and Economics*, in EFFICIENCY, SUSTAINABILITY, AND JUSTICE TO FUTURE GENERATIONS 31, 37 (2011). Although Professor Cserne articulates his definition for adjudication, the definition logically should also apply to legislative and regulatory lawmaking because the latter need not consider such matters as stare decisis.

27. *Id.* at 39.

28. Cost-benefit analysis is used both in the United States and abroad, though sometimes it goes by different names. In the European Union, for example, it is called impact assessment. *See* Caroline Cecot et al., *An Evaluation of the Quality of Impact Assessment in the European Union with Lessons for the US and the EU*, 2 REG. & GOVERNANCE 405, 420 (2008).

29. *See, e.g.*, Cass R. Sunstein, *Financial Regulation and Cost-Benefit Analysis*, 124 YALE L.J.F. 263, 263 (2015) (explaining that “[c]ost-benefit analysis is best understood as a way for agencies to ensure that their decisions are informed”). The reliability of cost-benefit analysis for financial regulation, however, is a matter of intense debate within the scholarly community. *See* John C. Coates IV, *Towards Better Cost-Benefit Analysis: An Essay on Regulatory Management*, 78 LAW & CONTEMP. PROBS. 1, 1 (Summer 2015) (noting that “[c]ost-benefit analysis of financial regulation (CBA-FR) has emerged as an important topic in both policy and legal debates”); Eric Posner & E. Glen Weyl, *Benefit-Cost Paradigms in Financial Regulation*, 43 J. LEG. STUD. 1, 3 (2014) (arguing that financial regulation should be subject to cost-benefit analysis). *Compare* Sunstein, *supra* note 29, at 279 (concluding that “financial regulators, no less than regulators of other kinds, should assess both costs and benefits, and they should proceed only if the benefits justify the costs”) with John H. Cochrane, *Challenges for Cost-Benefit Analysis of Financial Regulation*, 43 J. LEGAL STUD. 63, 101 (arguing that “it seems beyond hope that a congressionally mandated, formal cost-benefit analysis, conducted with an eye to judicial review, will consider, let alone quantify, [all relevant] costs.”).

30. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 396 (6th ed. 2003).

31. *See, e.g.*, *Cost-Benefit Analysis*, BLACK’S LAW DICTIONARY (10th ed. 2014) (defining CBA as “[a]n analytical technique that weighs the costs of a proposed decision”); BOUVIER LAW DICTIONARY 1151 (Stephen Michael Sheppard ed., Compact ed. 2011) (observing that federal agency CBA for determining whether a new regulation is promulgated “must demonstrate that the benefits to society outweigh the costs that the regulation will impose”); MAEVE P. CAREY, CONG. RES. SERV., R41974, *COST-BENEFIT AND OTHER ANALYSIS REQUIREMENTS IN THE RULEMAKING PROCESS* 1 (2014) (“Cost-benefit analysis, in [the federal rulemaking] context, involves the systematic identification of all

focusing on whether the benefits of implementing that regulation would exceed its costs.³² So used, cost-benefit analysis (“CBA”) addresses the “how” of regulation. CBI, however, addresses not only the “how” but also the “when” of regulation. Moreover, CBI addresses the “how” more objectively than CBA.

First consider why CBI addresses not only the “how” but also the “when.” By starting with a regulatory proposal, CBA does not—at least in practice³³—engage the question of when regulation should be proposed to address a problem. In contrast, CBI begins with that question. It does so by identifying market failures resulting from changes in financial markets and assessing the consequences of those failures. If those consequences are significantly negative—for example, the market failure causes material harm—CBI undertakes the “how” inquiry,³⁴ considering legal changes that could correct the harmful failures, examining the consequences of making those changes, and finally balancing consequences to reach a course of action.³⁵

CBI also addresses the “how” more objectively than CBA. Recall that CBA assesses the desirability of proposed regulation.³⁶ The very existence of a proposal, however, carries the possibility—if not likelihood—that either the proposal will be biased or the analysis will be biased in favor of the proposal. The proposal may be biased because politics can distort legal responses.³⁷ The analysis may be biased in favor of the proposal due to “confirmation bias”—the mere proposal of a specific change can influence those assessing the change to focus on evidence that confirms the proposal and to depreciate evidence that opposes it.³⁸

of the costs and benefits associated with a forthcoming regulation”); WILLIAM F. FOX, UNDERSTANDING ADMINISTRATIVE LAW 177 (5th ed. 2012) (stating that “[each of] the different processes of analysis that sometimes fit[s] under the general umbrella of cost-benefit analysis . . . is an attempt to . . . get as much information and insight on a *proposed government action* as possible” (emphasis added)). Judge Posner describes this common use as the lowest level of generality in which CBA is used. See POSNER, *supra* note 30 (exemplifying it as “the use of the criterion of wealth maximization to evaluate government projects”).

32. Cf. CAREY, *supra* note 31 (observing that a “proposed regulatory requirement is judged to pass the ‘cost-benefit test’ if the sum of its anticipated benefits outweighs, or otherwise justifies, the sum of its present and future costs in present value terms”).

33. CBA under Executive Order 12866 might appear to also address the “when” insofar as its first “principle of regulation” is that “[e]ach agency shall identify the problem that it intends to address (including, where applicable, the failures of private markets or public institutions that warrant new agency action) as well as assess the significance of that problem.” Exec. Order No. 12866, 3 C.F.R. § 1(b)(1) (1993). Indeed, my colleague, Jonathan Wiener, who helped to draft Executive Order 12866 believes the original goals of that Order paralleled the goals of what this article describes as CBI. In practice, however, he agrees that Executive Order 12866 has not been applied to require regulatory agencies to proactively monitor for or otherwise systematically attempt to identify market failures.

34. This article’s articulation of consequence-based inquiry thus proposes, consistent with existing legal principles, that legal changes should be considered only to correct harmful market failures. See *supra* note 21 and accompanying text.

35. See *supra* note 22 and accompanying text.

36. See *supra* note 31 and accompanying text.

37. See *supra* notes 7–19 and accompanying text.

38. Cf. Francis Chittenden & Tim Ambler, *A Question of Perspective: Impact Assessment and the Perceived Costs and Benefits of New Regulations for SMEs*, 33 ENV’T & PLAN. C: GOV’T & POL’Y 9, 21 (2015) (finding in a CBA context that “the confirmation bias present in processes run by staff from the

Confirmation bias helps explain what is often identified as one of CBA's main problems—that regulators only superficially consider alternatives.³⁹ In contrast, CBI should not suffer from these biases because it does not start with any specific proposal.⁴⁰

To illustrate these differences, compare Case 1, which represents traditional CBA, and Case 2, which represents CBI. Both cases speculate a change in bond markets from (i) bonds being privately traded among institutional investors to (ii) bonds being publicly traded and thus becoming available for investment by individuals and other non-institutional investors. In Case 1 (traditional CBA), politicians respond to the market change by proposing new regulation requiring the appointment of a trustee for each bond issue,⁴¹ who would act as an agent on behalf of investors. CBA would justify that regulation if its benefits would exceed its costs. The benefit would be the trustee's protection of non-institutional bondholders, which would solve the collective action problem that bondholders whose investments are relatively small lack economic incentive to take individual action or to cooperate.⁴² The cost would be the expense of appointing a trustee for each bond issue.⁴³

In Case 2 (which represents CBI), one would first examine if the aforesaid market change creates a market failure. Assuming it would,⁴⁴ one would then assess the consequences of that market failure. Being individually unable to protect themselves, non-institutional bondholders would be under-protected. For illustrative purposes, assume that under-protection causes most non-institutional investors to refuse to invest in bonds, leaving the publicly traded bond market dominated by institutional investors.

department charged with introducing a regulation[] can result in limited respect for each other's views"); Eva Jonas et al., *Confirmation Bias in Sequential Information Search After Preliminary Decisions: An Expansion of Dissonance Theoretical Research on Selective Exposure to Information*, 80 J. PERSONALITY & SOC. PSYCHOL. 557, 566–68 (2001) (finding that confirmation bias is strengthened with the amount of time the decisionmaker spends focusing on the proposal).

39. See, e.g., Robert W. Hahn et al., *Assessing Regulatory Impact Analyses: The Failure of Agencies to Comply with Executive Order 12,866*, 23 HARV. J.L. & PUB. POL'Y 859, 862 (2000) (reviewing the CBA for forty-six major regulations and finding that regulators did not evaluate any alternatives for 27% of the regulations and only fully examined the costs and benefits of possible alternatives for 31% of the regulations).

40. In other words, to determine whether a given financial market change should drive a legal change, CBI does not a priori assume a proposed legal change. See, e.g., *infra* notes 174–186 and accompanying text (examining a range of changes to corporate governance law that could correct a corporate governance market failure). Hahn and Sunstein similarly favor an approach that first analyzes consequences: "Our claim is that we could have more successes, better successes, and fewer failures if we attempted to analyze the consequences first." Hahn & Sunstein, *supra* note 22, at 1500 n.42.

41. Cases 1 and 2 assume the Trust Indenture Act is not yet enacted.

42. Steven L. Schwarcz & Gregory M. Sergi, *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 ALA. L. REV. 1037, 1037–38 (2008).

43. *Id.* at 1038.

44. Such market failure being the same collective action problem discussed in Case 1, that non-institutional bondholders would be individually unable to protect themselves. See *supra* note 42 and accompanying text.

Under these facts, the aggregate harm to the few non-institutional investors who, as a result of the market change, invest in bonds would be relatively small.⁴⁵ Any other harmful consequences of the market change would be minimal because of the continuing dominance of institutional investors. In that case, CBI would not even get to the next steps. This is a pragmatic approach; a financial market change that creates a market failure that causes little harm should not justify a corrective legal change, especially if the cost of making that legal change could be significant.

If, however, the examination of consequences showed that the market change would be more than minimally harmful, CBI would get to the next steps. Whereas CBA starts with a specific proposed regulation,⁴⁶ CBI would not necessarily start with any specific proposal. To that extent, CBI should be more objective in comparing alternative approaches to correct the market failure.⁴⁷

CBI can be broader than CBA in another way, too. In its most traditional application, CBA “requires the monetization of all benefits as well as of all costs for their comparison.”⁴⁸ CBI does not necessarily assume that the relevant consequences can always be precisely measured. CBI may therefore better comport with the messy reality of financial regulation than does CBA.⁴⁹

C. Testing The Hypothesis: Methodology

The remainder of this article tests and develops its hypothesis regarding the relationship between financial change and legal change. To that end, part II next examines the hypothesis in light of the literature on financial change, comparing it to the views advanced under that literature on when market changes should drive legal changes. Part III thereafter applies the hypothesis to an actual financial market change: the shift⁵⁰ from investors (i) holding their corporate

45. That aggregate harm would be small precisely because so few non-institutional investors invest in bonds.

46. See *supra* notes 31–37 and accompanying text. In Case 1, that specific proposed regulation is to require the appointment of a trustee for each bond issue. See *supra* note 41 and accompanying text.

47. See *supra* note 40 and accompanying text. This article does not address how to actually identify alternative approaches. I am unaware of any formal methodology that could be used for that purpose.

48. BOUVIER LAW DICTIONARY, *supra* note 31. But cf. Sunstein, *supra* note 29, at 264 (observing that cost-benefit analysis entails “an effort (1) to quantify the anticipated consequences of regulatory action and (2) to monetize those consequences in terms of benefits and costs, subject to (3) a feasibility constraint, which is meant to acknowledge that some consequences may be hard or impossible to quantify or monetize”); OFF. INFO. & REG. AFF., REGULATORY IMPACT ANALYSIS: A PRIMER 3 (2011) (“When quantification of a particular benefit or cost is not possible, it should be described qualitatively.”).

49. Cf. BOARD OF GOVERNORS OF THE FED. RES. SYS., CALIBRATING THE GSIB SURCHARGE 13 (2015) (“[U]sing cost-benefit analysis to directly calibrate firm-specific surcharges would require more precision in estimating the factors discussed above in the context of surcharges for individual firms than is now attainable . . .”); John C. Coates IV, *Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications*, 124 YALE L.J. 882 (2015) (using case studies of six financial regulation rules to show that precise, reliable, quantified CBA remains unfeasible).

50. See *infra* notes 116–123 and accompanying text.

bonds to maturity to (ii) trading their corporate bonds by reselling them prior to maturity (the “bond-market change”).⁵¹

II

TESTING THE HYPOTHESIS UNDER THE LITERATURE ON FINANCIAL CHANGE

Relatively little has been written to specifically inform how changes in financial markets should drive changes in law. This part, therefore, also reviews the literature on how market changes generally drive legal changes. It begins with the most general context—that of societal changes driving legal changes.⁵²

Professor Friedman argues that the law “should [change] slowly, in response to clearly formulated social sentiment.”⁵³ Professor Savigny would limit that even further, holding that legislatures should take action “[o]nly when popular custom, in part articulated by lawyers, ha[s] fully evolved.”⁵⁴ Although these two professors disagree on the extent of the limitation, it appears that societal changes should drive legal changes only when there is at least some social consensus that the legal changes are justified.⁵⁵

Financial markets, however, regularly undergo significant changes,⁵⁶ which tend to be much more technical and limited in audience than societal changes generally. As a result, inconsistencies can quickly develop between market reality and the law regulating the market. Professor Kane argues that some of these inconsistencies may even be intentional: “Legal categories and definitions will always lag financial realities because the regulated are more adept at taming and gaming changes in regulators’ rules than the regulators are at understanding and adapting to financial innovation.”⁵⁷ Nevertheless, the inconsistencies that develop between market reality and market regulation can create harm.⁵⁸

51. This article does not purport to critique the merits of the bond-market change or of any other financial market change. The article’s scope is limited to analyzing how financial market changes should drive legal changes—the law following, not leading. *See supra* note 1 and accompanying text. A critique of the merits of a financial market change would implicitly address whether law should correct an unmerited change—which is the different issue of the law leading, not following. *See supra* note 1 and accompanying text.

52. *See supra* note 1 and accompanying text.

53. FRIEDMAN, *supra* note 1.

54. *Id.* Friedman, however, believes that limitation is “too much out of tune with the basic condition of modern society to be a matter of serious discussion.” *Id.* at 4.

55. *Cf.* ALEXANDER M. BICKEL, *THE MORALITY OF CONSENT* 142 (1975) (concluding that values should be “provisionally held, . . . tested, and evolve within the legal order—derived from the morality of process, which is the morality of consent.”).

56. *See* Charles K. Whitehead, *Reframing Financial Regulation*, 90 B.U.L. REV. 1, 21 (2010) (describing “how issues addressed by existing regulation have begun to appear in new settings that fall outside the traditional categories”).

57. Edward J. Kane, *Insurance Contracts and Derivatives That Substitute for Them: How and Where Should Their Systemic and Nonperformance Risks Be Regulated?* 21 (Mar. 27, 2014) (unpublished manuscript), <https://www2.bc.edu/edward-kane/Insurance%20Contracts%20and%20their%20Substitutes.pdf> [<https://perma.cc/DT96-2ULS>].

58. *See infra* notes 83–101 and accompanying text.

Changes to market regulatory law should not have to wait for a social consensus to develop. Subpart A discusses the literature on changing that law.

Although less commonly examined in the literature, changes in market reality also have the potential to create harmful inconsistencies with law that does not purport to regulate the market, or non-regulatory law. Non-regulatory law can be tied to a specific market architecture, such as the “particular design and structure of financial firms, markets, and other related institutions” at the time the law was promulgated.⁵⁹ Therefore, a change in that architecture could undermine that law’s ability to continue correcting the market failures for which it was originally designed. Subpart B discusses the literature on changing non-regulatory law to correct market failures. This article ultimately concludes, however, that the distinction between regulatory and non-regulatory law is not critical to its analysis.⁶⁰

A. Changing Regulatory Law To Control Harm That Could Result From Change

This article first considers the theory, then the practice, of changing regulatory law to control harm that could result from market change.

1. Theory

Most of the theoretical literature on this topic concerns how regulatory law should be changed to respond to financial market bubbles. Professor Gerding theorizes, for example, that a particular change in the behavior of participants in the securities market should drive a change in securities regulation.⁶¹ He argues that “when investors or market participants believe that the [securities] market will continue to rise,” securities law can be undermined and therefore should be updated.⁶² He is most concerned about market-price bubbles, which he contends “exacerbate the behavioral biases of issuers and intermediaries, causing them to [underestimate] their expected liability under the securities laws . . . [and also] raise the costs of compliance with securities laws for market participants by increasing agency and information costs.”⁶³ As a result, he proposes, regulators should try to ascertain when these bubbles arise.⁶⁴ Others have similarly analyzed how regulatory law should be changed to respond to market bubbles.⁶⁵

59. Schwarcz, *supra* note 8, at 1442.

60. *See infra* note 113 and accompanying text.

61. Gerding, *supra* note 16, at 444–45.

62. *Id.*

63. *Id.* at 432. *Cf.* Lawrence J. White, *Technological Change, Financial Innovation, and Financial Regulation in the U.S.: The Challenges for Public Policy*, in *PERFORMANCE OF FINANCIAL INSTITUTIONS* 338 (P. Harker & S. Zeniuois eds., 2000) (arguing that market-price bubbles can raise securities-law compliance costs).

64. Gerding, *supra* note 16, at 444–45. *See also* ERIK F. GERDING, *LAW, BUBBLES, AND FINANCIAL REGULATION* (2014) (expanding on his bubble analysis).

65. *See, e.g.*, Ryan Bubb & Prasad Krishnamurthy, *Regulating Against Bubbles*, 163 U. PA. L. REV. 1539, 1544 (2015) (arguing that overconfidence in market participant behavior during bubbles renders incentive-based regulation ineffective and advocating a more command-and-control style of regulation).

Professor Deakin, among others, has focused on the market deregulation and re-regulation cycle.⁶⁶ Drawing on the work of Hyman Minski, he observes that whereas regulation often comes on the heels of economic shocks, the same regulation tends to be eroded away in times of market placidity.⁶⁷ He stresses the importance of accurately modeling these feedback loops in order to “allow the legal system to both reflect and shape market behavior.”⁶⁸ Even if that endeavor is feasible, it would not necessarily inform this article’s more limited examination of how regulatory law should change to control harm that could result from market change.

Although more theoretical literature on this topic exists, much of it is too general to usefully inform this article’s inquiry. For example, Professor Avgouleas has written that financial regulation should be tailored to facilitate the “recoupling of financial innovation with long-term growth.”⁶⁹ He is concerned that financial innovation sometimes represents rent-seeking by the financial sector, which can create or contribute to economic shocks.⁷⁰ To control that harm, he argues for “an institutional framework of regulatory controls and incentives” that can realign financial innovation to benefit the real economy.⁷¹ That provides little guidance, however, on how to design that framework.

Similarly, Professor Pistor argues that regulation in response to a changing financial market should “balance the elasticity of the liquidity of the system as a whole with a view on promoting growth, while avoiding high levels of volatility and destabilization.”⁷² Insufficient liquidity and uncertainty, she postulates, are correlated with volatility and destabilization—and a subsequent decline in the real economy.⁷³ She proposes that regulators should have a broad degree of discretion to control that potential harm.⁷⁴ Again, that is too general to usefully inform this article.

I have previously written about the theory of changing regulatory law to control harm that could result from financial market change, but from a different perspective. Because financial regulation is often tethered to the “particular design and structure of financial firms, markets, and other related institutions at the time the regulation is promulgated,”⁷⁵ such regulation “will quickly become

to prevent bubbles).

66. See *supra* notes 16–18 and accompanying text.

67. Simon Deakin, *The Evolution of Theory and Method in Law and Finance*, in THE OXFORD HANDBOOK OF FINANCIAL REGULATION 33 (Niamh Moloney et al. eds., 2015).

68. *Id.* at 26.

69. Emiliios Avgouleas, *Regulating Financial Innovation*, in THE OXFORD HANDBOOK OF FINANCIAL REGULATION, *supra* note 67, at 686.

70. *Id.* at 664–65.

71. *Id.* at 686.

72. Katharina Pistor, *On the Theoretical Foundations of Regulating Financial Markets* 6 (Columbia Law Sch. Pub. Law & Legal Theory Working Paper Grp., Paper No. 12-304, 2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2113675 [<https://perma.cc/Q8QE-JBKY>].

73. *Id.* at 4–5.

74. *Id.* at 42–43.

75. Schwarcz, *supra* note 8, at 1442.

outmoded” without ongoing monitoring and updating.⁷⁶ Therefore functional regulation, which focuses on the financial system’s underlying and thus less time-dependent economic functions, should supplement traditional financial regulation.⁷⁷ Functional regulation, though, is beyond the scope of this article, which focuses on more traditional regulation.

There is, however, a somewhat related theoretical literature on how regulatory law should be changed to respond to rapid innovation in a variety of scientific and technological fields.⁷⁸ That literature counsels “adaptive management,” an approach that, in the regulatory context, contemplates ongoing monitoring of whether existing regulation adequately addresses innovation, in order to make any necessary regulatory changes.⁷⁹ Although there have been some efforts in the United States to implement adaptive management approaches,⁸⁰ they have not yet been widely successful.⁸¹ The lack of success has been attributed to such factors as regulators’ fears that changing their own rules might be viewed as flip-flopping; budgetary inability to rewrite expensive rules; and concerns that partisan groups, which already spend heavily to influence regulators when rules are initially being written, may attempt to exert influence to change rules which do not actually need adjustment.⁸²

2. Practice

As compared to theory, more has been written about the practice of changing regulatory law to control harm that could result from market change. Consider, for example, the advent of shadow banking—a loose term that refers to the increasing provision of financing outside of traditional banking channels, and thus without the need for traditional modes of bank intermediation between capital markets and the users of funds.⁸³ Shadow banking has been radically changing financial intermediation.⁸⁴ The move from traditional intermediaries to

76. *Id.* at 1442–43.

77. *See generally id.*

78. Gary E. Marchant, *The Growing Gap Between Emerging Technologies and the Law*, in *THE GROWING GAP BETWEEN EMERGING TECHNOLOGIES AND LEGAL-ETHICAL OVERSIGHT* 19–20 (Gary E. Marchant et al. eds., 2011).

79. *Id.* at 30. The literature also contemplates that regulators might undertake *ex post* evaluation of regulation to try to improve *ex ante* regulatory methods. Jonathan B. Wiener, *Better Regulation in Europe*, 59 *CURRENT LEGAL PROBS.* 447, 514 (Jane Holder & Colm O’Cinneide eds., 2006).

80. *See* John D. Graham, *The Evolving Regulatory Role of the U.S. Office of Management and Budget*, 1 *REV. ENVTL. ECON. POL’Y* 171, 188 (2007) (former OIRA administrator discussing implementing a “look-back” policy during his tenure that required “regulators to reexamine and streamline about 100 existing regulations,” taking into account the actual resulting costs and benefits); Lawrence E. McCray et al., *Planned Adaptation in Risk Regulation: An Initial Survey of U.S. Environmental, Health, and Safety Regulation*, 77 *TECH. FORECASTING & SOC. CHANGE* 951 (2010) (describing similar “Planned Adaptation” procedures adopted by environmental, health, and safety regulators).

81. McCray et al., *supra* note 80, at 957.

82. *Id.*

83. Steven L. Schwarcz, *Regulating Shadow Banking*, 31 *REV. BANKING & FIN. L.* 619, 620–21, 624–25 (2012).

84. *See* Schwarcz, *supra* note 8, at 1443–44 (observing that in 2008, “the pre-crisis financial

shadow banks for financial services began in the 1950s as regulators “loosen[ed] their interpretations of the Glass-Steagall Act and Bank Holding Company Act, largely in response to the banks’ growing interest in offering new products and services.”⁸⁵ Even as the shadow banking industry grew to hold assets in excess of \$60 trillion by recent estimates,⁸⁶ the law was slow to change. Indeed, “[t]raditional categories . . . continue[d] to frame how intermediaries [we]re regulated.”⁸⁷

In practice, that use of traditional categories to regulate shadow banking was a problem for at least two reasons. First, those categories did not extend to firms that were not banks but performed many of the same intermediary functions, like securities firms, which left those firms without “a regulatory safety net.”⁸⁸ Second, those categories allowed shadow banks to take advantage of regulatory arbitrage by avoiding many of the regulations, like minimum capital requirements, that are designed to protect traditional intermediaries.⁸⁹ Thus, while shadow banks were “subject to risks that mirror those historically faced by intermediaries,” they were “subject to looser restrictions or none at all.”⁹⁰

Insider trading represents another area of the law that has been slow to react to market changes.⁹¹ Specifically, that body of law has failed to address technological changes that facilitate “the rise of exchange-traded index funds [‘ETFs’] and the growth of high-frequency trading algorithms [‘HFTs’].”⁹² These technological changes do not, by themselves, constitute market failures. They nonetheless have created market failures by limiting certain information to “a technologically savvy few.”⁹³ One commentator notes that ETFs “are not

regulatory framework, which assumed the dominance of bank-intermediated funding, failed to adequately address a collapsing financial system in which the majority of funding had become non-bank intermediated.”); Whitehead, *supra* note 56, at 21–27 (outlining how shadow banking has remained outside the scope of traditional financial regulation).

85. Whitehead, *supra* note 56, at 21.

86. Philipp Halstrick, *Tighter Bank Rules Give Fillip to Shadow Banks*, REUTERS (Dec. 20, 2011, 4:17 AM), <http://www.reuters.com/article/2011/12/20/uk-regulation-shadow-banking-idUSLNE7BJ00T20111220> [<https://perma.cc/75L3-F833>]. More recent estimates suggest an even higher number. FIN. STABILITY BD., GLOBAL SHADOW BANKING MONITORING REPORT 2012, at 3 (2012), http://www.fsb.org/wp-content/uploads/r_121118c.pdf [<https://perma.cc/N24Q-D32T>] (estimating shadow banking’s worldwide assets as \$67 trillion in 2011); Sheridan Prasso, *Shadow Banking*, BLOOMBERG (Mar. 31, 2015, 10:13 AM), <http://www.bloomberg.com/quicktake/shadow-banking/> [<https://perma.cc/9BBE-AQQR>] (reporting that the Financial Stability Board believes that shadow banking grew by \$5 trillion to \$75 trillion in 2013).

87. Whitehead, *supra* note 56, at 21.

88. *Id.* at 25.

89. *Id.* at 25–28.

90. *Id.* at 38–39.

91. Peter J. Henning, *Market Changes May Prompt New Definition of Insider Trading*, N.Y. TIMES (Nov. 4, 2015), http://www.nytimes.com/2015/11/05/business/dealbook/market-changes-may-prompt-new-definition-of-insider-trading.html?_r=0 [<https://perma.cc/NF58-VLB9>] (“The law of insider trading has not changed much since important Supreme Court rulings in the 1980s established a high bar for convictions.”).

92. *Id.*

93. *Id.*

immune to trading on confidential information, and indeed “may be even more vulnerable to manipulative conduct when they reflect just a sliver of the market.”⁹⁴ Current insider trading law, however, likely cannot reach that conduct in the absence of breach of a fiduciary duty.⁹⁵ Similarly, high-frequency traders, who rely upon minute-price differences when buying and selling assets, are able to “cash[] in on information before other investors learn about it.”⁹⁶

Regulation has also been slow to respond to other technological changes in markets that raise systemic concerns.⁹⁷ Again, technological changes do not, by themselves, constitute market failures, but they can create market failures.⁹⁸ For example, “[t]echnology has facilitated electronic trading, which has contributed to a fundamental shift in underlying transaction structures in financial markets, displacing face-to-face trading and enabling new market participants to trade.”⁹⁹ That shift has “contributed to the development of pervasive financial market networks,” which allow for contagion to spread widely during times of crisis.¹⁰⁰ Professor Arewa argues that this issue “require[s] system-wide regulation.”¹⁰¹

B. Changing Non-Regulatory Law To Control Harm That Could Result From Change

Market changes also have the potential to create harmful inconsistencies with non-regulatory law. Because even non-regulatory law is often tied to the particular design and structure of financial markets at the time the law is promulgated, a change in that design or structure could undermine the law’s ability to continue correcting the market failures for which it was originally designed.¹⁰²

Most of the scholarship discussing the need to update non-regulatory law to reflect changes in market reality focuses on the Uniform Commercial Code (UCC) in the United States. The UCC is a uniform state law promulgated jointly by the American Law Institute and the Uniform Law Commission¹⁰³ for enactment by state legislatures. These private public-interest organizations have jointly appointed a Permanent Editorial Board to periodically review how, if at all, the UCC should be changed to reflect changes in commercial markets and

94. *Id.*

95. *Id.*

96. *Id.* The concern is not that high-frequency traders can react more quickly to news, but rather, that their access to direct data feeds may enable them to acquire news earlier.

97. See, e.g., Olufunmilayo B. Arewa, *Financial Markets and Networks—Implications for Financial Market Regulation*, 78 U. CIN. L. REV. 613, 613 (2009) (describing that “[i]nnovations in technology and financial products. . . are an increasingly important source of systemic risk” and that “[t]he systemic risk that arises from [those innovations] needs greater regulatory recognition”).

98. See *supra* text accompanying notes 92–93.

99. Arewa, *supra* note 97, at 614.

100. *Id.* at 613.

101. *Id.* at 623.

102. See *supra* note 59 and accompanying text.

103. The Uniform Law Commission’s official name is The National Conference of Commissioners on Uniform State Laws (abbreviated NCCUSL).

practice.¹⁰⁴ This review process, and the updating of the law, reflects the practical wisdom of the UCC's founding visionary, Karl Llewellyn.¹⁰⁵

Routine “[o]ngoing monitoring and updating” of non-regulatory law in response to changes in financial architecture nonetheless “can be costly.”¹⁰⁶ Controversial legal updating can also be “subject to political interference.”¹⁰⁷ The UCC monitoring and updating process avoids these impediments: “commercial law is apolitical—because parties to commercial transactions can be on either side, depending on the transaction,”¹⁰⁸ and the American Law Institute and Uniform Law Commission act voluntarily and without charge.¹⁰⁹

C. How The Literature Informs The Hypothesis

The literature on financial change confirms the lack of a normative framework for addressing when financial market changes should drive legal changes. The relationship between these changes is described as—and in fact generally tends to be—ad hoc.¹¹⁰ Although scholars and other commentators often spot inconsistencies that develop between market reality and market regulation, that usually occurs after those inconsistencies develop and cause harm. Furthermore, even after those inconsistencies are spotted, the law tends to change slowly. Because the lack of a normative framework allows these harmful inconsistencies to develop between market reality and law, creating a framework could prove valuable.¹¹¹ Nothing in the literature appears to be inconsistent with this article's use of CBI to create such a framework.

This review of the literature has distinguished how regulatory and non-regulatory law responds to market changes. That distinction initially appears relevant because, intuitively, one would expect a more carefully thought-out framework for how regulatory law should respond. However, that distinction is not ultimately critical to the analysis, and indeed might even be misleading. For

104. See *Permanent Editorial Board for the UCC*, A.L.I., <https://www.ali.org/permanent-editorial-board-ucc/> [<https://perma.cc/J7N7-S7HA>].

105. Cf. KARL N. LLEWELLYN, *THE THEORY OF RULES* 79 (Frederick Schauer ed., 2011) (observing that “[t]he pace of an industrial civilization . . . present[s] [legal systems with] new states of fact too rapidly for knowledge to keep up with them,” which could “throw[] into doubt the *significance* of the very lines of classification on which the would-be precise rules have been made to rest”). At least in part for that reason, Llewellyn included in the UCC certain key terms—such as “good faith,” “usage of trade,” and “unconscionability”—that focus on the underlying functions of commercial law, in order to “provide safety valves to make the entire system more predictable.” Curtis Nyquist, *Llewellyn's Code As a Reflection of Legal Consciousness*, 40 NEW ENG. L. REV. 419, 433 (2006).

106. Schwarcz, *supra* note 8, at 1443.

107. *Id.*

108. *Id.* at n.6.

109. See *How the Institute Works*, A.L.I., <https://www.ali.org/about-ali/how-institute-works/> [<https://perma.cc/25CG-E9ZP>] (describing the process by which the ALI takes up and conducts a study).

110. The ad hoc nature of today's financial regulation is a problem that goes far beyond this essay. Cf. Schwarcz, *supra* note 8, at 1448 (describing why “[e]ven the theoretical scholarship on law and finance takes [an] ad hoc approach”).

111. CBI's normative grounding could also strengthen regulatory consistency, thereby reducing complexity. See Schwarcz, *supra* note 8, at 1463.

example, the clearest precedent of a carefully constructed framework for how law should respond to market changes relates to the UCC, which is only partly regulatory.¹¹² Nor does that precedent inform this article; it represents a special case for the reasons discussed.¹¹³ This article's analysis will therefore not substantively distinguish regulatory and non-regulatory law.

Finally, the literature on adaptive management proposes ongoing monitoring of whether existing regulation adequately addresses innovation. That proposal parallels, and its lack of success to date can help to inform, this article's discussion of proactive monitoring of financial market changes.¹¹⁴

This article's CBI hypothesis can thus be restated as follows: The extent to which a financial market change should drive legal changes depends on both the consequences of market failures resulting from the market change and the consequences of changing the law to attempt to correct those failures. The first steps of CBI are to identify a financial market change (which may involve monitoring financial markets), to determine whether any market failures result from the market change, and to assess the consequences of those failures. If those consequences are harmful, the next steps are to consider legal changes that could correct the market failures, to examine the consequences of making those legal changes, and finally to balance the consequences to decide upon a course of action.

III

TESTING THE HYPOTHESIS BY APPLYING IT TO AN ACTUAL FINANCIAL MARKET CHANGE

This article next tests and develops its hypothesis by applying it to the bond-market change, a recent example of an actual financial market change.

A. Identifying The Bond-Market Change As a Financial Market Change

The first step of CBI is to identify a financial market change. This discussion first identifies the bond-market change as a financial market change and thereafter addresses how financial markets could be monitored to identify other changes.

1. Identifying The Bond-Market Change As a Financial Market Change

The bond-market change—the shift in the corporate bond market from holding-bonds-to-maturity to bond-trading¹¹⁵—exemplifies a financial market

112. The UCC is not strictly regulatory because its central purpose is to facilitate commercial transactions through standardized terms while at the same time affording the parties a significant degree of contractual freedom. Charles Bunn, *Freedom of Contract Under the Uniform Commercial Code*, 2 B.C. L. REV. 59, 59 (1960).

113. See *supra* note 108 and accompanying text (observing that commercial law is uniquely apolitical and that the public-interest private organizations that promulgate the UCC perform, without charge, active commercial market monitoring and legal updating).

114. See *infra* notes 124–131, 135–140 and accompanying text.

115. See *supra* notes 50–51 and accompanying text.

change. Historically, most investors held their bonds to maturity.¹¹⁶ They expected to receive their value through the periodic payment of principal and interest.¹¹⁷ Today, however, most investors engage in bond trading.¹¹⁸ In 2014, for example, the average daily trading volume of corporate bonds reached a record of \$26.7 billion, a 50% increase from 2002's average trading volume of \$17.8 billion.¹¹⁹ That same year, the average turnover rate for corporate bonds, computed as bond trading volume as a percentage of total outstanding, was 85.9%.¹²⁰ That effectively means that the amount of bonds traded almost equaled the amount outstanding—a turnover rate approximately twice that of equity securities.¹²¹

As a result of the bond-market change, investors tend to view their bond investment decisions from a market-pricing standpoint, based on trading price,¹²² and are less likely to view those decisions from a periodic-payment standpoint.¹²³

116. Steven L. Schwarcz, *Compensating Market Value Losses: Rethinking the Theory of Damages in a Market Economy*, 63 FLA. L. REV. 1053, 1063 (2011).

117. MAUREEN BURTON ET AL., AN INTRODUCTION TO FINANCIAL MARKETS AND INSTITUTIONS 56 (2d ed. 2010).

118. See JANE W. D'ARISTA, THE EVOLUTION OF U.S. FINANCE 237 n.67 (noting that “trading activity was a significant share of total business and revenues” for large banks in the mid-1980s). See generally BURTON ET AL., *supra* note 117.

119. *US Bond Market Trading Volume*, SIFMA, <http://www.sifma.org/research/statistics.aspx> [<https://perma.cc/CLA8-BPH3>] (last updated Sept. 9, 2016). Besides a slight dip in trading volume during the financial crisis, the volume of corporate bond trades has steadily increased. *Id.*

120. I calculated 85.9% as \$26.7 billion average daily turnover rate for corporate bonds, *id.*, times 252 trading days per year, divided by \$7,830.1 billion corporate bonds outstanding, *US Bond Market Issuance and Outstanding*, SIFMA, <http://www.sifma.org/research/statistics.aspx> [<https://perma.cc/JD49-KWCF>] (last updated Sept. 16, 2016).

121. ITAY GOLDSTEIN ET AL., INVESTOR FLOWS AND FRAGILITY IN CORPORATE BOND FUNDS 8 (June 25, 2015) (unpublished manuscript) (on file with author) (concluding that bond investors trade their securities more frequently than equity investors).

122. Schwarcz, *supra* note 116, at 1056–58 (arguing that viewing a bond only in terms of periodic payments of principal and interest is “formalistic” and “questionable”). The fact that bonds are traded over-the-counter in informal markets operated through computers of brokerage houses and banks, as opposed to being traded in formal markets—such as the New York Stock Exchange or NASDAQ—should not change the analysis. See, e.g., ANNETTE THAU, THE BOND BOOK: EVERYTHING INVESTORS NEED TO KNOW ABOUT BONDS 7–8 (2d ed. 2001) (“[U]nlike stocks, bonds do not trade on an exchange . . . Rather, the bond market is a gigantic over-the-counter market, consisting of networks of independent dealers . . .”); NORMAN M. SCARBOROUGH, BUSINESS: GAINING THE COMPETITIVE EDGE 524 (1992). De facto secondary markets can be as legitimate and important to commerce as de jure markets to the extent they facilitate the transfer of property from willing sellers to willing buyers. Cf. JAMES B. HERENDEEN, ISSUES IN ECONOMICS: AN INTRODUCTION 231–32 (2008) (arguing that de jure stock markets and de facto bond markets provide the same six key contributions to commerce: (1) converting illiquid assets into relatively liquid assets; (2) reducing the cost of funds to borrowers, especially long-term borrowers; (3) allowing for the separation of ownership and control; (4) permitting the separation of saving and investing decisions; (5) making possible a market for corporate control; and (6) facilitating the determination of a firm's value).

123. Cf. BURTON ET AL., *supra* note 117 (observing that investors who held their bonds to maturity expected to receive their value through the periodic payment of principal and interest).

2. Addressing How Financial Markets Could Be Monitored To Identify Other Changes

This article has identified the bond-market change as an example of a financial market change, but the practical application of CBI must also address how financial markets could be monitored to identify other changes. Governmental units employing CBI might consider engaging in proactive monitoring. Although a full analysis of that monitoring, including processes and procedures by which monitors could try to recognize market failures, is beyond this article's scope, some observations may be in order.

First consider governmental precedents for proactive monitoring. Regulatory agencies, at least in the United States, do not generally have formal monitoring obligations.¹²⁴ There are, however, at least two exceptions: the U.S. Financial Stability Oversight Council (FSOC) and the U.S. Office of Financial Research (OFR), both established under the Dodd-Frank Act in response to the financial crisis.¹²⁵ The FSOC's bylaws appear to give it authority to proactively monitor financial market failures that could cause systemically harmful consequences.¹²⁶ The OFR likewise has monitoring authority¹²⁷ and is actually engaging in proactive monitoring for systemic risk through its "Financial Stability Monitor," which attempts to identify possible weaknesses in the financial system.¹²⁸

Even the OFR admits that its monitoring is imperfect. The "highly complex, dynamic, and interrelated" financial system makes it difficult to "adequately assess the probability and magnitude of all important risks."¹²⁹ The OFR's monitoring also appears to lack the type of granularity required for CBI because it is based on "a high-level summary" of broad risk categories such as macroeconomic conditions (examining inflation uncertainty, among other factors), market risk (examining interest-rate risk, among other factors), and

124. *Cf. supra* note 33 and accompanying text (observing that, even under the first principle of regulation articulated in Executive Order 12866, regulatory agencies have not been required to proactively monitor for market failures).

125. Further analysis of proactive monitoring might also take into account the more ad hoc approach of so-called OIRA "prompt" letters. When the Office of Information and Regulatory Affairs (OIRA) within the federal Office of Management and Budget (OMB) considers an issue worthy of federal agency regulatory priority, it sometimes takes the initiative to send a letter to the agency with suggestions for improving regulations. *See OIRA Prompt Letters*, OFF. MGMT. & BUDGET, http://georgewbush-whitehouse.archives.gov/omb/infoereg/prompt_letter.html [<https://perma.cc/AC8K-E2AF>].

126. The section of the FSOC's by-laws titled "Information Collection and Sharing" provides that FSOC "shall collect any data or information from member agencies and the FIO as necessary to carry out the duties of the Council under the Act, including monitoring the financial services marketplace to identify and assess risks to the United States financial system." FIN. STABILITY OVERSIGHT COUNCIL, RULES OF ORGANIZATION OF THE FINANCIAL STABILITY OVERSIGHT COUNCIL § XXX.4(a) (2010), <https://www.treasury.gov/initiatives/Documents/FSOCbylaws.pdf> [<https://perma.cc/LX3H-QFZA>].

127. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 154(c)(B), 124 Stat. 1376, 1418 (2010) (codified as amended at 15 U.S.C. § 5344(c)(1)(B) (2012)) (requiring the OFR to "monitor, investigate, and report on changes in systemwide risk levels and patterns to the [Financial Stability Oversight] Council and Congress").

128. Office of Fin. Research, *Financial Stability Monitor*, <https://financialresearch.gov/financial-stability-monitor/> [<https://perma.cc/96WV-4MLD>].

129. OFFICE OF FIN. RESEARCH, OFR FINANCIAL STABILITY REPORT 2 (2015).

contagion risk (examining interconnectedness, among other factors).¹³⁰ Nonetheless, OFR monitoring appears to be the clearest example of proactive governmental financial monitoring.¹³¹

Any analysis of CBI monitoring should also consider whether to take into account its costs as well as its benefits, especially if those benefits include reducing systemic risk. At least in the United States, the statutory policy of the Dodd-Frank Act is to regard financial stability as a paramount goal, regardless of the cost of achieving it.¹³² This policy reflects a broader logic—that systemically harmful consequences can be devastating.¹³³ The costs of proactive monitoring would be tangible but finite.¹³⁴

Because both involve monitoring, the experience with adaptive management might also inform CBI. Recall that adaptive management contemplates ongoing monitoring of whether existing regulation adequately addresses innovation.¹³⁵ Similarly, CBI contemplates proactively monitoring changes in financial markets to try to recognize market failures that could cause harmful consequences.¹³⁶ Adaptive management’s monitoring flaws¹³⁷ should not, however, apply to CBI monitoring. For example, regulators using CBI who identify a financial market failure that could cause harmful consequences, and who then consider regulatory responses to correct the failure, could not rationally be accused of “flip-flopping.”¹³⁸ Such regulators might, as with adaptive management, possibly suffer a “budgetary inability to rewrite expensive rules”¹³⁹; but if the market failure’s consequences are systemically harmful, the government should be justified in alleviating any such budgetary concerns.¹⁴⁰

130. Office of Fin. Research, *OFR Financial Stability Monitor* 1 (2015).

131. I also have noted that proactive monitoring occurs in the commercial law context. *See supra* notes 104–105 and accompanying text. That, however, is a special case for many reasons, including that the monitoring is by public-interest private organizations. *See supra* note 113 and accompanying text.

132. *See infra* note 191 and accompanying text.

133. *See, e.g.*, Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 204 (2008) (defining systemic risk as “the risk that (i) an economic shock . . . triggers . . . either (X) the failure of a chain of markets or institutions or (Y) a chain of significant losses to financial institutions, (ii) resulting in increases in the cost of capital or decreases in its availability, often evidenced by substantial market-price volatility”). Estimates of the cost of the financial crisis are in the trillions. *See, e.g.*, Tyler Atkinson et al., *How Bad Was It? The Costs and Consequences of the 2007–09 Financial Crisis*, FED. RES. BANK OF DALLAS 1 (Sep. 2013) (estimating the likely cost of the financial crisis to the United States as “\$6 trillion to \$14 trillion,” the “equivalent of 40 to 90 percent of one year’s economic output”).

134. *Cf. supra* note 106 and accompanying text (observing that routine ongoing monitoring and updating of law in response to changes in financial architecture can be costly).

135. *See supra* notes 78–79 and accompanying text.

136. *See supra* notes 124–131 and accompanying text.

137. *See supra* text accompanying note 82 (discussing those flaws).

138. *See supra* text accompanying note 82.

139. *See supra* text accompanying note 82.

140. *Cf. supra* note 133 and accompanying text (arguing that because systemically harmful consequences can be devastating, the cost of avoiding those consequences should be justified).

Furthermore, CBI monitoring should not raise the concerns associated with adaptive management that partisan groups will “attempt to exert influence to change rules which do not actually need adjustment.”¹⁴¹ Unlike adaptive management, in which the monitoring goal is to identify existing regulation that inadequately addresses innovation, the goal of CBI monitoring is merely to identify financial market failures that could cause harmful consequences. If and when such a failure is identified, the law may not need to be changed.¹⁴² If the law does need to be changed, the CBI process should provide a transparent framework to counter lobbying pressure.¹⁴³

B. Determining Whether The Bond-Market Change Causes Harmful Market Failures

The next steps in CBI are to determine whether any market failures result from the financial market change and to assess the consequences of those failures. The bond-market change causes at least two types of harmful market failures: agency failure and externalities.

1. Agency Failure

Perhaps the principal market failure resulting from the bond-market change is agency failure.¹⁴⁴ Agency failure includes conflicts of interest between principals and their agents, classically portrayed as conflicts between owners and managers of a firm.¹⁴⁵ The agency failure resulting from the bond-market change is that managers of firms do not act on behalf of bondholders who should now be their constituents.

Under the hold-to-maturity model, the law assumed that bondholders lacked a direct interest in their firm’s performance—and thus were unaffected by managerial decisions—so long as the firm remains solvent to repay principal and interest when due.¹⁴⁶ The law also assumed that bondholders could rely on covenants to contractually protect against the firm’s insolvency.¹⁴⁷ But the bond-market change undermines both of those assumptions. Because the resale price of bonds is tied to firm performance, solvency alone cannot protect bondholders. And bondholders cannot contractually assure that performance because, as later

141. See *supra* text accompanying note 82.

142. See *supra* text accompanying note 47 (CBI does not start with any specific proposed legal change; a comparison of alternatives may find the status quo the best).

143. See *supra* note 5 and accompanying text (arguing that a normative framework, which this essay ultimately constructs as CBI, would increase transparency and hence legitimacy).

144. Economists identify three possible financial market failures: agency failure, information failure, and externalities. Steven L. Schwarcz, *Regulating Shadows: Financial Regulation and Responsibility Failure*, 70 WASH. & LEE L. REV. 1781, 1788 (2013). I have argued that “externalities” is not truly a market failure because it refers to a failure’s consequence, not its cause. *Id.*

145. Lucian A. Bebchuk & Jesse M. Fried, *Pay Without Performance: Overview of the Issues*, 20 ACAD. MGMT. PERSP. 5, 9 (2006).

146. See *infra* note 171 and accompanying text.

147. See *infra* notes 171–72 and accompanying text.

observed for shareholders, covenants cannot control “all of the operating and investment decisions necessary to run the firm efficiently.”¹⁴⁸

As a result, bondholders can now be directly affected by managerial decisions. If managers do not act on their behalf, would-be bondholders may be reluctant to invest, depriving firms of a critical source of funding.¹⁴⁹ Managers may also be tempted to engage in morally hazardous behavior, acting with other people’s (here, bondholders’) money but not being responsible to them.¹⁵⁰ Moreover, any attempt to impose stricter covenants to protect bondholders might cause more harm: because covenants are relatively inflexible—any change requires a formal waiver—the imposition of stricter covenants could reduce profitability and actually increase the risk of payment defaults.¹⁵¹

2. Externalities

The bond-market change can also cause externalities, another type of market failure.¹⁵² Externalities can arise because the traditional method of calculating damages ignores bond-trading prices, and thus may no longer protect the reasonable expectations of an injured bondholder. That allows parties to harm bondholders without having to internalize the cost of their harm.¹⁵³

Bondholder damages are traditionally calculated on the assumption that bonds are held to maturity.¹⁵⁴ Such damages are therefore measured only by a

148. See *infra* note 169 and accompanying text.

149. Bondholders might also attempt to strengthen their contracts, wasting time and resources trying to negotiate protective covenants. See *supra* note 148 and accompanying text.

150. Dale B. Tuck, *Should Bonds Have More Fun? A Reexamination of the Debate over Corporate Bondholder Rights*, 1989 COLUM. BUS. L. REV. 1, 3 (1989). Shareholders may exacerbate that failure by pressuring managers to take risks that could benefit shareholders but harm bondholders, such as a gamble that could greatly increase the firm’s equity but, if unsuccessful, could make the firm insolvent. See Yakov Amihud et al., *A New Governance Structure for Corporate Bonds*, 51 STAN. L. REV. 447, 453–54 (1999) (discussing that opportunistic shareholders may want their firm to take risks that could benefit them even if their expected benefit is smaller than the expected loss to the firm’s creditors); Tuck, *supra* note 150 (arguing that shareholders might cause corporate assets to be selectively distributed to them, such as through dividends or stock repurchases).

151. See Simone M. Sepe, *Corporate Agency Problems and Dequity Contracts*, 36 J. CORP. L. 113, 145–46 (2010) (arguing that covenants can “impair[] the managers’ ability to pursue value-maximizing projects . . . [which would] reduce the likelihood of increases in cash-flow production and, therefore, enhance the risk of debtor payment defaults”). Cf. Amihud et al., *supra* note 150, at 455 (observing “the costs stemming from the limitations on the company’s actions imposed by [bond] covenants . . . because covenants are not (and cannot be) fine-tuned to restrain only actions that reduce the aggregate value of the firm”).

152. See *supra* note 144. Although economists regard externalities as a market failure, I argue they are more accurately the effect of a market failure. See *id.*

153. Cf. *Metropolitan Life Insurance Co. v. RJR Nabisco, Inc.*, 716 F. Supp. 1504, 1505–06 (S.D.N.Y. 1989) (in which a firm’s decision to engage in a leveraged buyout significantly harmed its bondholders); David M.W. Harvey, *Bondholders’ Rights and the Case for a Fiduciary Duty*, 65 ST. JOHN’S L. REV. 1023, 1030 (1991) (describing ways in which stockholders may expropriate value from bondholders, one example being a leveraged buyout).

154. Cf. *supra* notes 116–117 and accompanying text (observing that most corporate bonds were historically held by investors to maturity; therefore investors in those bonds expected to receive their value through principal and interest payments).

reduction in the payment of principal and interest, not by a reduction in trading price.¹⁵⁵ For example, In *Metropolitan Life Insurance Co. v. RJR Nabisco, Inc.*,¹⁵⁶ decided before the bond-market change established bond trading as the norm it is today, plaintiff MetLife argued that RJR's leveraged buyout caused the RJR bonds held by MetLife to lose their investment-grade rating,¹⁵⁷ causing the resale price of the bonds to plummet.¹⁵⁸ MetLife argued that its damages should include this price loss, but the court disagreed. It reasoned that the loss did not constitute the "fruits of the agreement" under which the bonds were issued¹⁵⁹—such "fruits" being "the periodic and regular payment of interest and the eventual repayment of principal."¹⁶⁰

The bond-market change thus causes two harmful market failures: agency failure and externalities. The consequences of these market failures can be significant because bondholders have become an important investor group; indeed, they are usually the dominant investors in firms. When the shareholder-primacy model originated during the 1930s,¹⁶¹ the equity markets far outshadowed the size of the corporate bond market.¹⁶² In contrast,¹⁶³ bonds are now the principal source of external financing for U.S. firms.¹⁶⁴

155. For a comprehensive analysis of whether damages should include the loss in market value of wrongfully affected property, see Schwarcz, *supra* note 116.

156. 716 F. Supp. 1504 (S.D.N.Y. 1989).

157. *Id.* at 1516. For a description of how bond ratings are structured, see Steven L. Schwarcz, *Private Ordering of Public Markets: The Rating Agency Paradox*, 2002 U. ILL. L. REV. 1, 7 (2002) ("[T]he highest rating on long-term debt securities is AAA, with ratings descending to AA, then to A, and then to BBB and below . . . The higher the rating, the lower the rating agency has assessed the credit risk associated with the securities in question . . . Ratings below BBB- are deemed non-investment grade, and indicate that full and timely repayment on the securities may be speculative." (internal quotation marks omitted)).

158. *RJR Nabisco*, 716 F. Supp. at 1506.

159. *Id.* at 1518–19.

160. *Id.* at 1518. Even after RJR's leveraged buyout, these payments were expected to continue. *Id.* at 1519.

161. See Adolph A. Berle, Jr., *Corporate Powers as Powers in Trust*, 44 HARV. L. REV. 1049, 1049 (1931); E. Merrick Dodd, Jr., *For Whom Are Corporate Managers Trustees?*, 45 HARV. L. REV. 1145, 1148 (1932).

162. See, e.g., Bruno Biais & Richard C. Green, *The Microstructure of the Bond Market in the 20th Century 1* (Aug. 29, 2007) (working paper) (on file with the Research Showcase @ CMU) (stating that in the 1930s, "the trading volume in [corporate] bonds was between one fifth and one third of the trading volume in stocks"). Indeed, that dominance of equity appears to be one of the justifications for shareholder primacy. Cf. Adolph A. Berle, Jr., *For Whom Corporate Managers Are Trustees*, 45 HARV. L. REV. 1365, 1370 (observing that "[p]robably half the entire savings of the country are now represented by passive property" in the form of shares of stock, and that corporate shareholding "directly affect[s] not less than half of the population of the country").

163. Hendrik Bessembinder & William Maxwell, *Markets: Transparency and the Corporate Bond Market*, 22 J. ECON. PERSP. 217, 220 (2008). Cf. Hugh Thomas & Zhiqiang Wang, *The Integration of Bank Syndicated Loan and Junk Bond Markets*, 28 J. BANKING & FIN. 299, 302 (2004) (observing the shift of corporate debt markets "from a bank liquidity orientation to a capital markets orientation").

164. In 2014, for example, newly issued corporate bonds raised approximately \$1.49 trillion, compared to only \$175 billion (i.e., \$0.175 trillion) raised by newly issued shares of stock. *New Security Issues, U.S. Corporations*, BD. OF GOVERNORS OF THE FED. RES. SYS. (2016), <http://www.federalreserve.gov/econresdata/releases/corpsecure/current.htm> [<https://perma.cc/AQT5-2DY6>]. Since 2006, new corporate bond issuances have exceeded new issuances of equity more than eight-fold. *Id.* at

Because the bond-market change causes harmful market failures like agency failure and externalities, this article next considers legal changes that could correct those failures.

C. Considering Legal Changes That Could Correct The Market Failures

Two types of legal changes would correct these market failures: changing corporate governance law would correct the agency failure, and changing damages law would correct the externalities.

1. Changing Corporate Governance Law To Correct The Agency Failure

Corporate governance law could be changed to correct the agency failure by including bondholders in corporate governance.¹⁶⁵ Corporate governance law currently follows the shareholder-primacy model, in which a corporation is “organized and carried on primarily for the profit of the stockholders.”¹⁶⁶ As residual claimants of the firm, shareholders are not entitled to a fixed return. Instead, they may look for income streams in the form of dividends, payable from a portion of the firm’s profits.¹⁶⁷ Shareholders also place significant value on increasing the stock price, which enables them to sell their shares at a profit.¹⁶⁸ Because covenants “can never restrict or determine all the operating and

<http://www.federalreserve.gov/econresdata/releases/corpsecure/corpsecure2015.htm> [https://perma.cc/DM6R-KT7P]. This compares the proceeds of newly issued corporate bonds and equity shares, excluding any increase of balance-sheet equity resulting from retained earnings—the portion of a firm’s net income (primarily built up through income from operations) that is retained by the firm rather than being distributed to shareholders as dividends. The reason for this exclusion is that categorizing retained earnings as equity is an accounting convention; even the retained net income of a firm financed primarily by debt would be categorized as equity under that convention. Any comparison between debt and equity proceeds is inherently imprecise, however, because debt securities have fixed maturities whereas equity securities are generally co-terminus with the firm’s existence.

165. If corporate governance law should be changed to reflect the bond-market change, that legal change could result from legislative action or from judicial decisionmaking. An analysis of a similar legal change suggests, however, that legislative action would be more effective. Steven L. Schwarcz, *Misalignment: Corporate Risk-Taking and Public Duty*, 92 NOTRE DAME L. REV. 1, § III.B.1 (forthcoming Nov. 2016), <http://ssrn.com/abstract=2644375> [https://perma.cc/7BBM-PQRW].

166. *Dodge v. Ford Motor Co.*, 170 N.W. 668, 684 (Mich. 1919); see also Milton Friedman, *The Social Responsibility of Business is to Increase its Profits*, N.Y. TIMES, Sept. 13, 1970 (arguing that businesses have no “social responsibilities” other than to increase its profits for its stockholders). The overwhelming acceptance for the shareholder-primacy model can be traced to a debate in the 1930s between two academics, Adolph A. Berle and Merrick Dodd. Berle argued that “all powers granted to a corporation or to the management of a corporation . . . [are] at all times exercisable only for the ratable benefit of all the shareholders as their interest appears.” Adolph A. Berle, Jr., *Corporate Powers as Powers in Trust*, 44 HARV. L. REV. 1049, 1049 (1931). Dodd, in contrast, argued that the business corporation should be viewed as “an economic institution which has a social service as well as a profit-making function.” See E. Merrick Dodd, Jr., *For Whom Are Corporate Managers Trustees?* 45 HARV. L. REV. 1145, 1148 (1932).

167. RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* 5 (11th ed. 2014).

168. See, e.g., William W. Bratton, *Shareholder Value and Auditor Independence*, 53 DUKE L.J. 439, 452–56 (2003) (observing that shareholders speculate, or at least place significant value, on the ability to resell their stock at a profit).

investment decisions necessary to run the firm efficiently,”¹⁶⁹ shareholders must rely on the firm’s management.¹⁷⁰

Shareholder primacy implicitly assumes that bonds are held to maturity. Bondholders therefore lack a direct interest in their firm’s performance so long as the firm remains solvent to repay principal and interest when due.¹⁷¹ Shareholder primacy also assumes that creditors, such as bondholders, can contractually protect against the firm’s insolvency by negotiating covenants in their loan agreements.¹⁷² The bond-market change undermines both of these assumptions.¹⁷³

There are at least two ways that bondholders could be included in corporate governance to correct this agency failure: bondholders and shareholders could share governance, or managers could have a duty to both bondholders and shareholders.¹⁷⁴ Under the sharing-governance approach, bondholders “would elect only a minority of management,” and thus could be outvoted.¹⁷⁵ However management decisions “that could significantly harm bondholders” would “require some form of supermajority voting,” such as the consent of at least one or more of the bondholders’ representatives.¹⁷⁶ Under the dual-duty approach, managers would have a duty to consider both bondholder and shareholder interests.¹⁷⁷ Their “primary duty . . . would usually be to shareholders” except when a management decision could “significantly harm bondholders,”¹⁷⁸ in which case they would have to more closely balance bondholder and shareholder interests.¹⁷⁹

2. Changing Damages Law To Correct The Externalities

Damages law could be changed to correct externalities by allowing bondholders to calculate damages based on the reduction in trading price.¹⁸⁰ For

169. BREALEY ET AL., *supra* note 167, at 352.

170. Cf. Jill E. Fisch, *Market Efficiency in Corporate Law: The Role of Shareholder Primacy*, 31 J. CORP. L. 637, 658 (2006) (arguing that shareholders have a direct stake in the firm’s future performance).

171. Lynn A. Stout, *Bad and Not-So-Bad Arguments for Shareholder Primacy*, 75 S. CAL. L. REV. 1189, 1192 (2002).

172. See, e.g., Greg Nini, David C. Smith & Amir Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, 25 REV. FIN. STUD. 1713, 1714–15 (2012).

173. See *supra* notes 147–148 and accompanying text.

174. See generally Steven L. Schwarcz, *Rethinking Corporate Governance for a Bondholder Financed, Systemically Risky World*, 58 WM. & MARY L. REV. (forthcoming 2016–2017), <http://ssrn.com/abstract=2741794> [<https://perma.cc/ML3M-XENL>].

175. *Id.* at 22.

176. *Id.* at 22.

177. *Id.* at 23.

178. *Id.* at 28. Under the sharing-governance approach, the bondholders’ representatives would determine when a management decision could significantly harm bondholders. *Id.* at 22. Under the dual-duty approach, any manager could make that determination. *Id.* at 24.

179. *Id.* at 24 (arguing that such managers should then favor bondholders unless the overall benefit to shareholders is expected to considerably outweigh the harm to bondholders (or there is some other compelling reason to favor shareholders over bondholders)).

180. This is an exception to the observation that objectivity would best be achieved by examining a

example, assume a third party tortiously harms a firm, reducing the firm's net worth from \$100 million to \$10 million. Further assume that net-worth reduction causes the firm's bonds to drop in trading price from \$5,000 per bond to \$4,500 per bond.¹⁸¹ Because the firm would still be solvent—and thereby presumably able to pay principal and interest on the bonds, bondholders would have no damages under the traditional method of calculation. If, however, damages were instead calculated based on the reduction in trading price, bondholders would have a \$500-per-bond claim against the tortfeasor.¹⁸²

D. Examining The Consequences Of Making Those Legal Changes

Next examine the consequences of making these legal changes, focusing first on changing corporate governance law and thereafter on changing damages law.

1. Examining The Consequences Of Changing Corporate Governance Law

Both approaches to changing corporate governance law would help to mitigate the agency failure resulting from the bond-market change. The sharing-governance approach would mitigate that failure by giving bondholders managerial representation; the dual-duty approach would mitigate that failure by requiring managers to consider bondholder interests. The sharing-governance approach would be simpler and involve less managerial discretion, and thus would be procedurally easier to implement. But the ability of bondholder representatives to block management decisions that could significantly harm bondholders could be costly, impairing corporate profitability.¹⁸³

In contrast, the dual-duty approach to governance would provide more flexibility for profit making. Rather than enabling bondholder representatives to block management decisions, the dual-duty approach contemplates a more nuanced balancing of shareholder and bondholder interests.¹⁸⁴ Although that balancing would require managers to exercise discretion, which can create

range of possible legal changes. *See supra* note 47 and accompanying text. The change here appears to be straightforward.

181. For a detailed analysis of why the bonds' trading price could drop, see Schwarcz, *supra* note 174, at 15–17.

182. The above calculation assumes the bondholders' claims are not subject to a defense of being for "pure economic loss." Most jurisdictions in the United States now allow at least some recovery for pure economic loss. Schwarcz, *supra* note 116, at 1055.

183. *Cf.* Jesse M. Fried & Mira Ganor, *Agency Costs of Venture Capitalist Control in Startups*, 81 N.Y.U.L. REV 967, 998 (2006) (arguing that preferred shareholders, whose interests somewhat parallel that of bondholders, may prefer safety to profitability).

184. *See supra* note 179 and accompanying text.

uncertainty,¹⁸⁵ managers exercising that discretion would be protected by the business judgment rule so long as they use at least slight care.¹⁸⁶

That balancing of shareholder and bondholder interests might itself sometimes impair corporate profitability. For systemically important firms, however, any such impairment would be at least partially offset by a reduction in systemic risk.¹⁸⁷ Because bondholders are more risk-averse than are shareholders,¹⁸⁸ including them in governance would reduce such a firm's likelihood of failing with systemically harmful consequences.¹⁸⁹ Reducing systemic risk can yield a very high benefit because the magnitude and harmful consequences of a systemic collapse, if it occurs, could be devastating.¹⁹⁰ The Dodd-Frank Act itself regards those consequences as so harmful that it directs the Federal Reserve, when regulating to mitigate risks to the financial stability of the country, to bypass consideration of costs and benefits.¹⁹¹

2. Examining The Consequences Of Changing Damages Law

Changing damages law to reflect trading-price losses should reduce externalities, with little other consequences. It would conform damages law to the new market reality while respecting that law's underlying philosophy. Courts generally award damages to preserve the reasonable expectations of an injured party.¹⁹² Thus, they award damages for the market-value losses of securities, such

185. Compare Marcel Kahan, *The Qualified Case Against Mandatory Terms in Bonds*, 89 NW. U.L. REV. 565, 613 (1995) (arguing that imposing a fiduciary duty to bondholders "would be vague and create great uncertainty as to whether a given action would violate it or not. As a result, the duty would be difficult to enforce and would likely result in significant litigation costs.") with Morey W. McDaniel, *Bondholders and Corporate Governance*, 41 BUS. L. 413, 446 (1986) (arguing that directors already have fiduciary duties to different classes of shareholders and regularly consider and resolve conflicts between the two classes, so extending fiduciary duties to creditors may not result in a detrimental increase in uncertainty and chaos).

186. Schwarcz, *supra* note 174, at 26. Although an additional cost of including bondholders in governance would be the administrative and logistical expenses of changing the corporate governance regime (both legally and as a matter of changing corporate operating procedures), that transitional cost should be justified by the significant shift in bondholder financing of corporations. See *supra* notes 161–164 and accompanying text.

187. Cf. Exec. Order No. 12866, 58 Fed. Reg. 51735 (Oct. 4, 1993) (requiring CBA for economically significant rules that "adversely affect in a material way the economy, a sector of the economy, productivity, competition, [or] jobs").

188. Schwarcz, *supra* note 174, at 6.

189. *Id.* at 6–7. Cf. Peter O. Mülbert & Alexander Wilhelm, *CRD IV Framework for Banks' Corporate Governance*, in EUROPEAN BANKING UNION 196–97 (Danny Busch & Guido Ferrarini eds., 2015) (observing that "it seems that in jurisdictions which prioritize shareholder supremacy, bank managements are indeed encouraged to take significantly more risk"). This is somewhat anomalous because systemic risk is a market failure that does not result from, but yet (through that change in law) can be mitigated by, the bond-market change.

190. See *supra* note 133.

191. BD. OF GOVERNORS OF THE FED. RES. SYS., *supra* note 49, at 13 (stating that "cost-benefit analysis was not chosen as the primary calibration framework for the GSIB surcharge for two reasons [of which the first is that] it is not directly related to the mandate provided by the Dodd-Frank Act, which instructs the Board to mitigate risks to the financial stability of the United States").

192. Schwarcz, *supra* note 116, at 1062.

as shares of stock, that “are normally purchased with an eye toward a later sale.”¹⁹³ The historical rationale for awarding damages this way is to reduce the likelihood of private retribution by restoring a sense of fairness.¹⁹⁴ The more modern rationale is to reduce externalities by aligning incentives *ex ante*,¹⁹⁵ thereby making “promises credible . . . and induc[ing] the optimal level of performance.”¹⁹⁶ The proposed change is consistent with these rationales.

E. Balancing The Consequences To Choose a Course Of Action

In order to choose an appropriate course of action, CBI would finally balance the consequences of each of the corrective options.

1. Balancing The Consequences Of Changing Corporate Governance Law

Both of the approaches to change corporate governance law¹⁹⁷ would correct the agency failure resulting from the bond-market change. The sharing-governance approach would be simpler and involve less managerial discretion than the dual-duty approach, but the latter is preferable because it would provide more flexibility for profit making. Even though the need to balance shareholder and bondholder interests under the dual-duty approach might itself sometimes impair corporate profitability, any such impairment would be at least partially offset, for systemically important firms, by a reduction in systemic risk. Balancing these consequences, the bond-market change may well justify changing corporate governance law to require systemically important firms to adopt a dual-duty approach to governance.

2. Balancing The Consequences Of Changing Damages Law

Changing damages law as contemplated would greatly reduce externalities resulting from the bond-market change. The change itself would be relatively simple and inexpensive to implement. It would only apply when bondholders obtain an enforceable judgment and need to calculate damages. Balancing these consequences, it would appear that the bond-market change should drive this change in damages law, to allow bondholders to calculate damages based on the reduction in a bond’s trading price.

Courts may already be reaching this same result, although without clearly articulating their rationale. Just a few years ago, for example, on facts virtually identical to the *RJR Nabisco* case,¹⁹⁸ the Canadian Supreme Court awarded

193. *Dura Pharm., Inc. v. Broudo*, 544 U.S. 336, 342 (2005). *See id.* at 345 (indicating that the purpose of the securities laws is “to protect [investors] against those economic losses that misrepresentations actually cause”). Congress has gone so far as making market value loss a required element in an action for securities fraud. 15 U.S.C. § 78u-4(b)(4) (2012).

194. Schwarcz, *supra* note 116, at 1060.

195. *Id.* at 1060–61.

196. *Id.* at 1061.

197. *See supra* notes 174–179 and accompanying text (discussing those approaches).

198. *See supra* note 156 and accompanying text.

bondholders damages based on the reduction in the trading price of their bonds.¹⁹⁹ By engaging in a leveraged buyout, a company's bonds lost their investment-grade rating, thereby diminishing their value.²⁰⁰ The Court awarded damages based on that diminished value,²⁰¹ consistent with this article's proposal for changing damages law.

IV

CONCLUSION

This article derives a normative framework, referred to as consequence-based inquiry, to determine when financial market changes should drive legal changes. CBI can improve the current ad hoc and politically distorted lawmaking process, which often results in over-reactive or under-reactive legal changes that are made too late, after harm has occurred.

Under CBI, the extent to which financial market changes should drive legal changes should depend both on the consequences of the market failures resulting from financial market changes and the consequences of changing the law to correct those market failures. This inquiry is broader in several ways—addressing not only the “how” but also the “when” of regulation, and also addressing the “how” more objectively—than traditional cost-benefit analysis, which is currently used to assess regulatory changes. Whereas traditional CBA assumes a decision, which may well be politically motivated, to implement specific proposed regulation if its benefits exceed its costs, CBI begins by identifying a financial market change,²⁰² determining whether any market failures result from the market change, and assessing the consequences of those failures. If those consequences are significantly negative, CBI then considers legal changes that could correct the harmful failures, examines the consequences of making those changes, and finally balances those consequences to choose the appropriate course of action. Those next steps are more objective than traditional CBA; they avoid confirmation bias because they do not necessarily start with any specific proposal, and they are less subject to political distortions.

That is not to say that CBI is necessarily better than all conceptions of CBA. In its ideal form, CBA would look a lot like CBI. The original goals of at least one federal executive order for assessing regulatory change even appeared to parallel CBI's goals, although that order's implementation has followed traditional limitations.²⁰³ I claim only that CBI should be better than traditional CBA as practiced.

199. *BCE Inc. v. 1976 Debentureholders*, [2008] 3 S.C.R. 560 (Can.).

200. *Id.* at 563.

201. *Id.* at 565.

202. To identify such changes, this article proposes that governments consider proactively monitoring financial markets. *See supra* notes 124–143 and accompanying text.

203. *Cf. supra* note 33 (observing that although the original goals of Executive Order 12866 appear to parallel what this essay describes as CBI, that Order has not been applied to accomplish those goals).

This article has not systematically examined applying CBI beyond the financial market context. Nonetheless, this method of inquiry could also prove useful in more general application, including for determining when non-financial market—or possibly even non-market—changes should drive legal changes.